CLAIMS AS AMENDED HEREIN
WITH STATUS IDENTIFIERS AND MARKINGS TO SHOW CHANGES:

The following claims replace all prior versions of the claims in this application:

WHAT IS CLAIMED IS:

Claim 1 (currently amended): A method for forming a dense Si-C-B-N composite, said method comprising:

(a) mechanically activating a powder mixture comprised of silicon nitride, silicon carbide, and boron nitride; and

(b) consolidating said powder mixture so activated into a continuous mass by compressing said powder mixture so activated in the presence of 0 to 1% by weight of metal oxide densification aids relative to said powder mixture, while passing an electric current through said powder mixture, to achieve a fused Si-C-B-N mass comprised of crystals less than 100 nanometers in diameter.

Claim 2 (currently amended): The method of claim **1** wherein said powder mixture of step (a) is substantially amorphous.

Claim 3 (original): The method of claim **1** wherein said crystals of said fused Si-C-B-N mass are less than 50 nm in diameter.

Claim 4 (currently amended): The method of claim **1** wherein any metal densification aid present in step (b) is from 0 to 0.5% by weight of said powder mixture of step (b).

Claim 5 (currently amended): The method of claim **1** wherein any metal densification aid present in step (b) is from 0 to 0.1% by weight of said powder mixture of step (b).

Claim 6 (original): The method of claim **1** wherein step (b) is performed in the absence of metal oxide densification aids.

Claim 7 (currently amended): The method of claim **1** wherein said powder mixture of step (a) consists essentially of from about 10 to about 60 parts by volume silicon, from about 10 to about 60 parts by volume carbon, from about 10 to about 60 parts by volume nitrogen, and from about 2 to about 30 parts by volume boron, based on a total of 100 parts by volume of said powder mixture of step (a).

Claim 8 (currently amended): The method of claim **1** further comprising forming said powder mixture of step (a) by combining decaborane with a polyorganosilazane, followed by crosslinking and pyrolysis.

Claim 9 (original): The method of claim **8** wherein said polyorganosilazane is a polyureasilazane.

Claim 10 (currently amended): The method of claim **1** wherein step (b) comprises compressing said powder mixture so activated at a pressure of about 10 MPa to about 200 MPa and a temperature of about 900°C to about 3,000°C, and said electric current is a pulsed direct current of about 1,000 A/cm^2 to about 10,000 A/cm^2.

Claim 11 (original): The method of claim **10** wherein said pressure is about 40 MPa to about 100 MPa.

Claim 12 (original): The method of claim **10** wherein said temperature is about 1,000°C to about 2,000°C.

Claim 13 (original): The method of claim **10** wherein said pulsed direct current is about 1,500 A/cm^2 to about 5,000 A/cm^2.

Claim 14 (original): The method of claim **1** wherein step (b) is performed to achieve a fused mass with a density of at least 95% relative to a volume-averaged theoretical density.

Claim 15 (original): The method of claim **1** wherein step (b) is performed to achieve a fused mass with a density of at least 98% relative to a volume-averaged theoretical density.

Claim 16 (original): The method of claim **1** wherein step (b) is performed to achieve a fused mass with a density of at least 99% relative to a volume-averaged theoretical density.

Claim 17 (original): The method of claim **1** wherein step (a) comprises milling said powder mixture by high-energy ball milling.

Claim 18 (original): The method of claim **17** wherein said high-energy ball milling is performed with silicon nitride milling balls in an oscillating mill at about 6 or more impacts per second and a charge ratio of at least about 10:4.

Claim 19 (withdrawn): A dense composite of silicon nitride, silicon carbide, and boron nitride, consisting essentially of crystals less than 100 nm in diameter and containing 0 to 1% by weight of metal oxide densification aids, produced by a process comprising:

(a) mechanically activating a powder mixture of silicon nitride, silicon carbide, and boron nitride; and

(b) consolidating said powder mixture into a continuous mass by compressing said powder mixture in the presence of 0 to 1% by weight of metal oxide densification aids while passing an electric current through said powder mixture, to achieve a fused Si-C-B-N mass comprised of crystals less than 100 nanometers in diameter.

Claim 20 (withdrawn): The composite of claim **19** wherein said powder mixture of step (a) is substantially amorphous.

Claim 21 (withdrawn): The composite of claim **19** wherein said fused mass consists of particles less than 50 nanometers in diameter.

Claim 22 (withdrawn): The composite of claim **19** wherein step (b) is performed in the presence of 0 to 0.5% by weight of metal oxide densification aids.

Claim 23 (withdrawn): The composite of claim **19** wherein step (b) is performed in the presence of 0 to 0.1% by weight of metal oxide densification aids.

Claim 24 (withdrawn): The composite of claim **19** wherein step (b) is performed in the absence of metal oxide densification aids.

Claim 25 (withdrawn): The composite of claim **19** wherein said powder mixture consists essentially of from about 10 to about 60 parts by volume silicon, from about 10 to about 60 parts by volume carbon, from about 10 to about 60 parts by volume nitrogen, and from about 2 to about 30 parts by volume boron, totaling 100 parts by volume of said powder mixture.

Claim 26 (withdrawn): The composite of claim **19** wherein said powder mixture is formed by combining decaborane with a pyrolysis product of a polyorganosilazane in an inert atmosphere.

Claim 27 (withdrawn): The composite of claim **26** wherein said polyorganosilazane is a polyureasilazane.

Claim 28 (withdrawn): The composite of claim **19** wherein step (b) comprises compressing said powder mixture at a pressure of about 10 MPa to about 200 MPa and a temperature of about 900°C to about 3,000°C, and said electric current is a pulsed direct current of about 1,000 A/cm^2 to about 10,000 A/cm^2.

Claim 29 (withdrawn): The composite of claim **28** wherein said pressure is about 40 MPa to about 100 MPa.

Claim 30 (withdrawn): The composite of claim **28** wherein said temperature is about 1,000°C to about 2,000°C.

Claim 31 (withdrawn): The composite of claim **28** wherein said pulsed direct current is about 1,500 A/cm^2 to about 5,000 A/cm^2.

Claim 32 (withdrawn): The composite of claim **19** wherein step (b) is performed to achieve a fused mass with a density of at least 95% relative to a volume-averaged theoretical density.

Claim 33 (withdrawn): The composite of claim **19** wherein step (b) is performed to achieve a fused mass with a density of at least 98% relative to a volume-averaged theoretical density.

Claim 34 (withdrawn): The composite of claim **19** wherein step (b) is performed to achieve a fused mass with a density of at least 99% relative to a volume-averaged theoretical density.

Claim 35 (withdrawn): The composite of claim **19** wherein step (a) comprises milling said powder mixture by high-energy ball milling.

Claim 36 (withdrawn): The composite of claim **19** wherein said high-energy ball milling is performed with silicon nitride milling balls in an oscillating mill at about 6 or more impacts per second and a charge ratio of at least about 10:4.